**Exercise 1: Control Structures**

**Ans 1:**

Declare

v\_id Customers.CustomerID%TYPE;

v\_dob Customers.DOB%TYPE;

v\_interest Loans.InterestRate%TYPE;

v\_age NUMBER;

CURSOR c\_cust IS SELECT c.CustomerID, c.DOB, l.InterestRate

FROM Customers c

JOIN Loans l

ON c.CustomerID = l.CustomerID;

BEGIN

OPEN c\_cust;

LOOP

FETCH c\_cust INTO v\_id, v\_dob, v\_interest;

EXIT WHEN c\_cust%NOTFOUND;

v\_age := FLOOR(MONTHS\_BETWEEN(SYSDATE, v\_dob)/12);

IF v\_age > 60 THEN

UPDATE loans

SET InterestRate = v\_interest \* 0.99

WHERE CustomerID = v\_id;

END IF;

END LOOP;

CLOSE c\_cust;

COMMIT;

END;

/

**Ans 2.**

Declare

v\_id customers.CustomerID%TYPE;

v\_bal customers.Balance%TYPE;

CURSOR c2\_cust IS

SELECT CustomerID, Balance FROM Customers;

BEGIN

OPEN c2\_cust;

LOOP

FETCH c2\_cust INTO v\_id, v\_bal;

EXIT WHEN c2\_cust%NOTFOUND;

IF v\_bal > 10000 then

UPDATE Customers

SET isvip = 'True'

WHERE CustomerID = v\_id;

ELSE

UPDATE Customers

SET isvip = 'False'

WHERE CustomerID = v\_id;

END IF;

END LOOP;

CLOSE c2\_cust;

COMMIT;

END;

/

SELECT \* FROM customers;

**Ans 3.**

DECLARE

CURSOR due\_loans IS

SELECT

l.LoanID,

l.CustomerID,

l.EndDate,

c.Name

FROM Loans l

JOIN Customers c ON l.CustomerID = c.CustomerID

WHERE l.EndDate BETWEEN SYSDATE AND SYSDATE + 60;

v\_loan\_id Loans.LoanID%TYPE;

v\_customer\_id Loans.CustomerID%TYPE;

v\_end\_date Loans.EndDate%TYPE;

v\_customer\_name Customers.Name%TYPE;

BEGIN

OPEN due\_loans;

LOOP

FETCH due\_loans INTO v\_loan\_id, v\_customer\_id, v\_end\_date, v\_customer\_name;

EXIT WHEN due\_loans%NOTFOUND;

DBMS\_OUTPUT.PUT\_LINE(

'Reminder: Customer ' || v\_customer\_name||

' (CustomerID: '|| v\_customer\_id ||

') has a loan (Loan ID: ' || v\_loan\_id ||

') due on ' || TO\_CHAR(v\_end\_date, 'DD-MM-YYYY')

);

END LOOP;

CLOSE due\_loans;

END;

/

-- This program does not have any output as the given loan in the table is due in 60 months.